



# Scul-Sense™ Five-Wire Optic Sensor

## Liquid Level Sensor for Road Tanker Overfill Prevention

Featuring Dynacheck® – Automatic and Continuous Self-Checking Circuitry



### DESCRIPTION

Scully five-wire optic sensors are purpose-built for liquid petroleum product overfill prevention and point level detection.

They are designed to be used with the Scully Intellitrol®, Intellitrol®2, and ST-35C series loading rack control monitors. The sensors can also be used with the Scully Intellicheck® Monitor series or Scully Load Anywhere® Truck Monitors. There is no waiting for the control monitors' permit light to go on because the sensor requires no warm up time. Overfill prevention applications include road tankers, rail cars and storage tanks.

The five-wire optic sensor is a critical component in Scully's unique and patented Dynacheck® circuit design.

When used in conjunction with Scully electronic monitoring equipment, our overfill protection sensor will provide consistent failsafe monitoring. By constantly checking a "closed loop" pulsing signal across the entire system, Scully ensures a safe and reliable loading operation. If rising fuel contacts the sensor, this signal is interrupted and the controlling pumps and valves are shutdown. No operator involvement is needed to end the loading operation.

Scully offers a 5-year warranty on these models of overfill prevention sensors for fixed tank trailer and storage tank applications. Scully sensors have the longest running safety record in the industry and are manufactured in Scully's U.S. factory, which prides itself on its strict quality and safety standards.

### 5-Wire Sensor

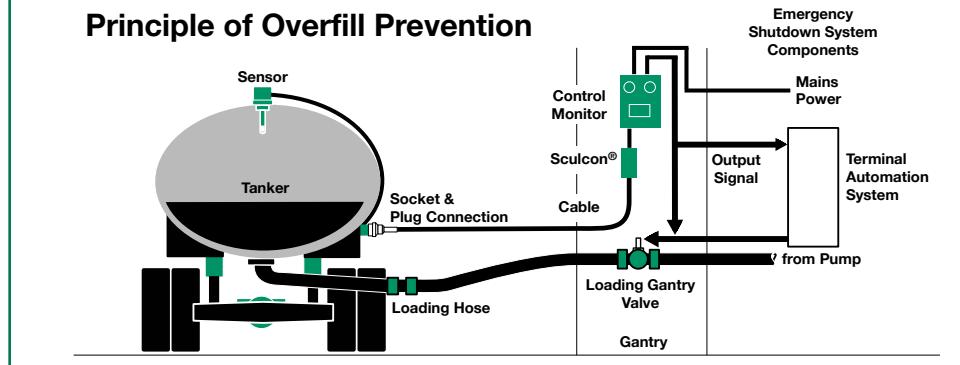
The Scul-Sense™ design is ATEX compliant and withstands temperature related stresses, dramatically improving reliability across a wide operating range.

### IEC 61508 SIL 2

$\lambda_{DU}=1.0 \text{ FIT}^*$     $\lambda_{SU}=116 \text{ FIT}^*$

\*FIT = Failure In Time ( $1 \times 10^9$  failures per hour)

### Principle of Overfill Prevention

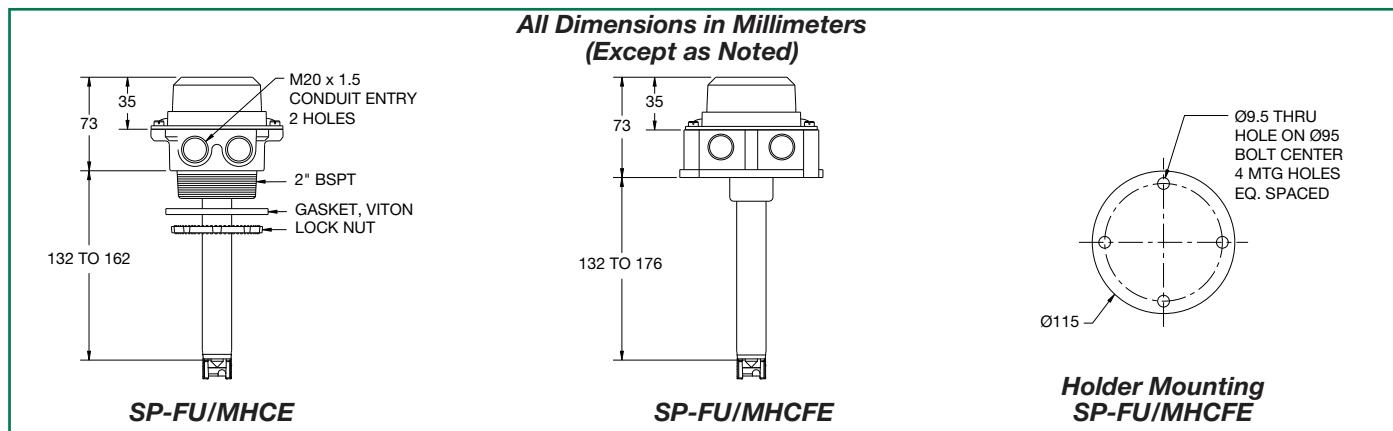


### FEATURES AND BENEFITS

- Maximum safety with Dynacheck®—Automatic and continuous self-checking circuitry when used with Scully electronic rack and vehicle onboard monitoring systems.
- Scully's field-proven electro-optics technology.
- Wide temperature range.
- Adjustable Sensing Level.
- Instant-On™—Instant permissive signal. No warmup time required.
- Quick purging of liquid—"fast" repermit as product level drops below the sensing point.
- ATEX, IECEx and UKEX approved.



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## TECHNICAL SPECIFICATIONS

<b>Operating Temp. Range:</b>	-40°C to +60°C (-40°F to +140°F).
<b>Petroleum Product Range:</b>	Petroleum Blends through #2 Oil.
<b>Exposed Materials:</b>	Aluminum, Zinc, Borosilicate (Pyrex®) glass, epoxy, conductive nylon and Viton® seals.
<b>Level Repeatability:</b>	±1 mm (±1/16").
<b>Electrical Leads:</b>	45cm (18") long. 0.33 mm <sup>2</sup> (#22 AWG).

<b>Cable Entry:</b>	Two holes, M20 x 1.5 threads.
<b>Detection Level and Size:</b>	The detection level is adjustable, refer to sensor outline drawing above, shown for 175mm shaft length.
<b>Approvals:</b>	UL21ATEX2635X IECExUL21.0113X UL22UKEX2272X II 1 G Ex ia IIB T5 Ga (-40°C ≤ Ta ≤ +60°C)
	 

## ORDERING INFORMATION

Model	Description	Shaft Length	Part Number	Part Number for EN13922 Wire Colours
SP-FU/MHCE(SC)	Five-Wire Optic Sensor, 2" BSPT holder, 35mm Short Cap	175mm	09031L1	09031L1E
		300mm		09038L1E
		375mm		09048L1E
		457mm		09175L1E

## REPLACEMENT PARTS

Model	Description	Shaft Length	Part Number	Part Number for EN13922 Wire Colours
SP-FU	Five-Wire Optic Sensor, (without holder)	175mm	09036L1E	09036L1E
		300mm	09039L1	09039L1E
		375mm	09049L1	09049L1E
		457mm		09176L1E
SP-MHCE(SC)	2" BSPT Threaded Holder Only		08714	
SP-MHCFE(SC)	Flanged Holder Only		08284	

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Dynamic Self-Testing® Overfill Prevention Systems

**Scully Signal Company**  
800 272 8559  
sales@scully.com  
Wilmington, MA, USA

**Scully Systems Europe NV**  
+32 (0) 15 56 00 70  
sales@scully.be  
Mechelen, Belgium

**Scully UK Ltd**  
+44 (0) 1606 553805  
sales@scullyuk.com  
Winsford Cheshire, UK

**Scully Systems India**  
+91 9821799566  
salesindia@scully.com  
Maharashtra, India

